

### Abstract

The invention relates to a premix burner with high flame stability for use in a heat producer, preferably in the combustion chamber of a gas turbine. Modern lean operated premix burners make possible very low pollutant emissions, but sometimes operate very close to the extinction limit. To increase the stability of the lean premix combustion by increasing the distance between the flame temperature and the extinction limit temperature, it is proposed according to the invention to arrange a downstream combustion gas mixing section (300) for the burner, which mixing section (300) projects at least partially into the combustion chamber (50) and enables combustion gases from the combustion chamber (50) access to the fuel/air mixture (144) by means of combustion gas inlet openings (311). The added combustion gases (145) are mixed with the fuel/air mixture (144), and in this manner increase its temperature. This increase in temperature results in a significant increase in the flame speed, as a consequence of which the extent of the flame front (123) and the extinction limit temperature of the burner decrease.